CX5200 RETAIL DEMONSTRATOR (C)

Field Service Manual

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ATARI

CX5200™ RETAIL DEMONSTRATOR

FIELD SERVICE MANUAL

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CX5200 Retail Demonstrator
Field Service Manual

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INTRODUCTION

The CX5200 Retail Demonstrator Field Service Manual is a reference guide for you, the service technician. It is designed to enable you to repair and maintain the retail demonstrator. This manual is to be used in conjunction with the CX5200 Field Service Manual (FD100127 Rev. 02).

This manual is organized in eight sections.

- **Theory of Operation** - Overview of how the retail demonstrator works.
- **Schematics & Silkscreens** - Electrical drawings of the retail demonstrator.
- **Testing Procedures** - Procedures for determining if the retail demonstrator is functioning properly.
- **Fault Isolation** - Procedures for determining which assembly in the retail demonstrator is defective.
- **Disassembly/Assembly Procedures** - Procedures for accessing the various assemblies of the retail demonstrator.
- **Repair Procedures** - Procedures to follow once the defective assembly has been determined.
- **Parts List** - Breakdown of part numbers used in the retail demonstrator.
- **Service Bulletins** - Section to be used to hold all Field Change Orders, Upgrade Bulletins and Tech Tips.

SECTION 1

THEORY OF OPERATION

Overview

The ATARI CX5200 Retail Demonstrator is a free-standing unit which includes: a built-in television monitor, a shelf which displays the Model 5200 console, a control panel, a roller menu and a cabinet containing the Major Modules which allow for interaction between the game and the player(s).

Figure 1-1 is a Functional Block Diagram of the CX5200 Retail Demonstrator.

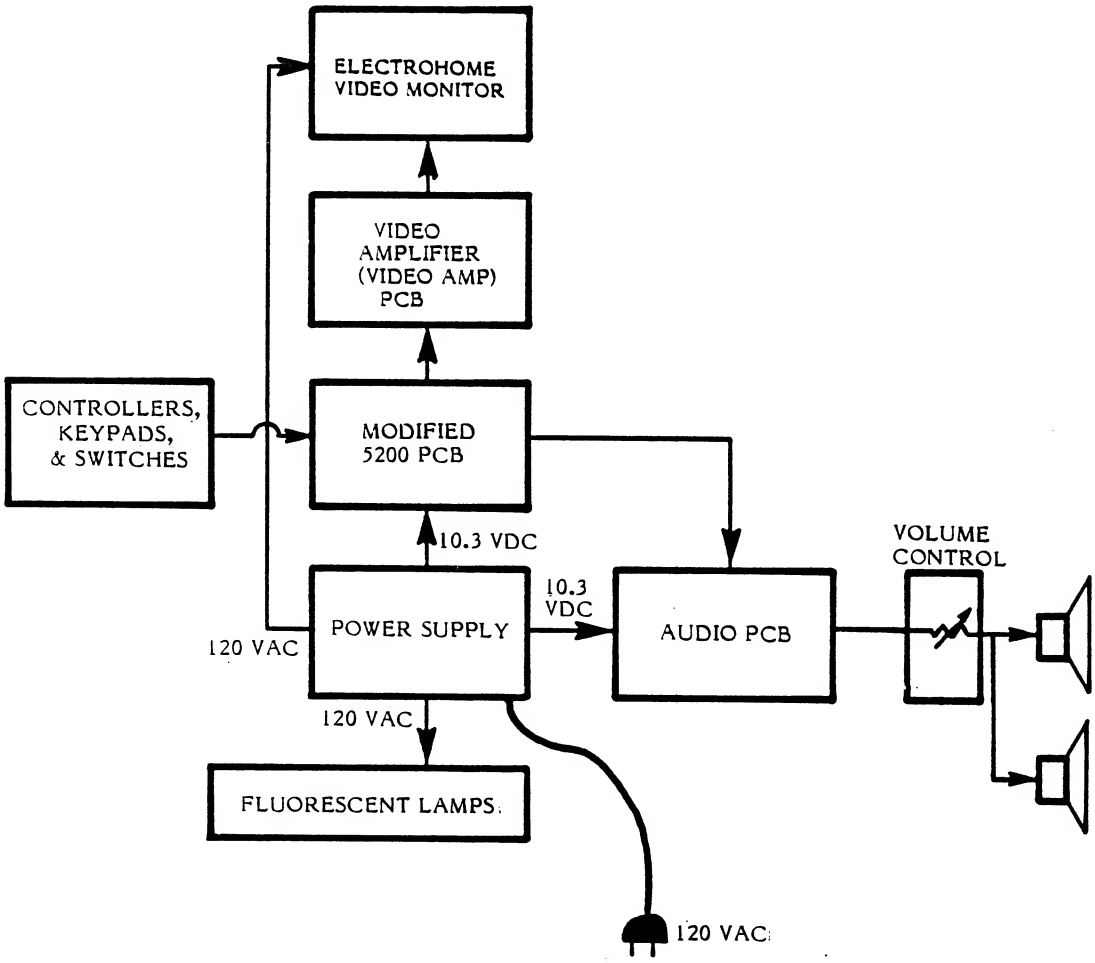


Figure 1-1. CX5200 Retail Demonstrator Functional Block Diagram

MAJOR ASSEMBLIES

The major assemblies are discussed in the following paragraphs.

Modified CX5200 PC Board

The Retail Demonstrator utilizes the standard CX5200 PC Board with a few minor changes.

The changes are:

1. The RF Modulator has been removed.

   Unmodulated video is now carried from the modified CX5200 PC Board through an amplifier to a monitor.

2. C10 has been deleted to remove modulated audio from the composite video signal.

3. A small PC Board (the Video Amplifier PC Board) has been added above the area where the RF Modulator used to be. It contains:

   - the video amplifier circuit which consists of a simple two transistor circuit plus other discrete components.
   - the audio connector and a decoupling cap. The audio is tapped off of pin 37 of U7 and the output is fed through an amplifier on another module before being sent to the speakers.

4. Power (9 volts DC) is supplied from an auxiliary power supply to an added connector mounted near the video amplifier. L8 is removed from the CX5200 PC Board to isolate the DC from the video amplifier. The center wire of the connector is soldered to the circuit side of the position L8 once held, and the ground side of the connector is soldered to the shield ground trace.

Power Supply Unit

The power supply is used to convert the line voltage of 120 volts AC to the proper voltage level required by the Audio board assembly and the modified CX5200 board assembly. The voltage is 10.6 volts DC. This module also supplies 120 volts AC for the fluorescent lights and the monitor.

Audio PC Board

The audio circuit contains two independent audio amplifiers of which only one is used in this application. The amplifiers are a TDA 2002A that have an effective gain of 2.2.

SECTION 2

SCHEMATICS AND SILKSCREENS

On the following pages are representative silkscreens and schematics for the CX5200 Retail Demonstrator. Minor variations in design may be encountered depending on the production date of the unit, but these schematics provide all details required for an in-depth understanding of all CX5200 Retail Demonstrator units.

NOTE: THE SCHEMATIC FOR THE CX5200 PC BOARD MINUS THE VIDEO AMP BOARD IS IN THE CX5200 FIELD SERVICE MANUAL (PART NUMBER FD100127 REV. 02).

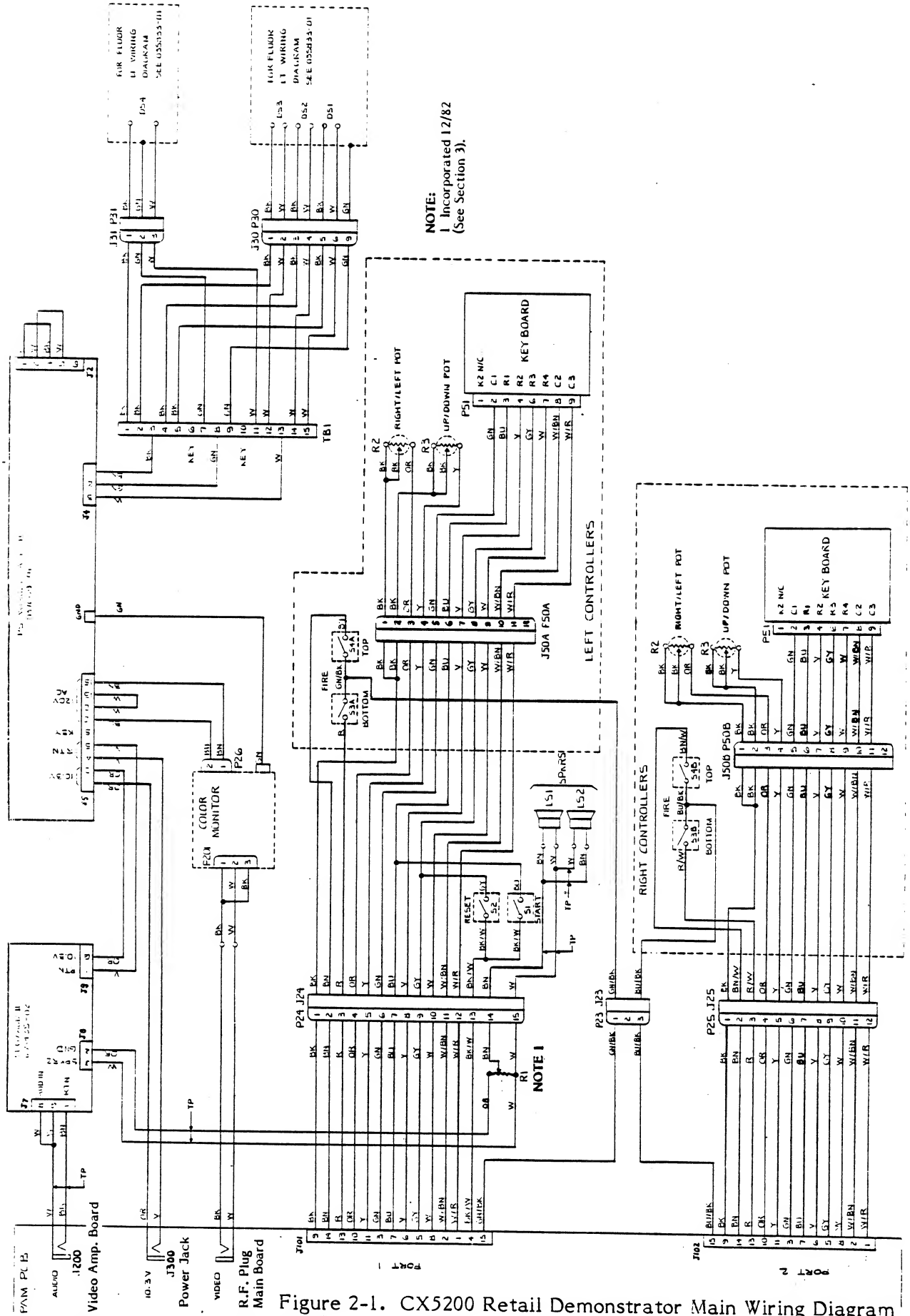


Figure 2-1. CX5200 Retail Demonstrator Main Wiring Diagram

The Audio PC Board is a combination Audio/Regulator Board. Since only the audio portion is used, the regulator portion has been removed from the schematic. When troubleshooting this board pay no attention to components not found on the schematic.

NOTE: THE OUTLINED PORTION OF THE SCHEMATIC IS A STANDBY AUDIO CHANNEL USED DURING TROUBLESHOOTING.

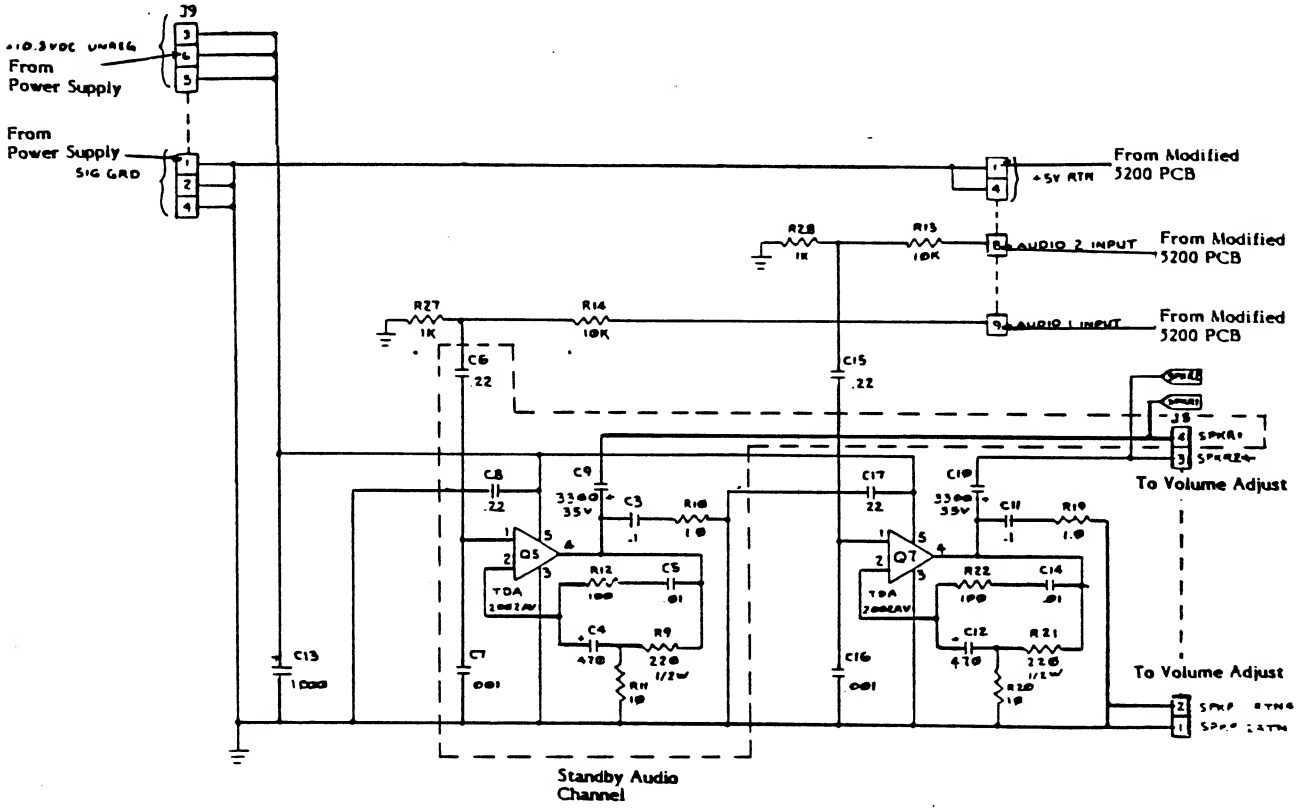


Figure 2-2. Audio PC Board Schematic

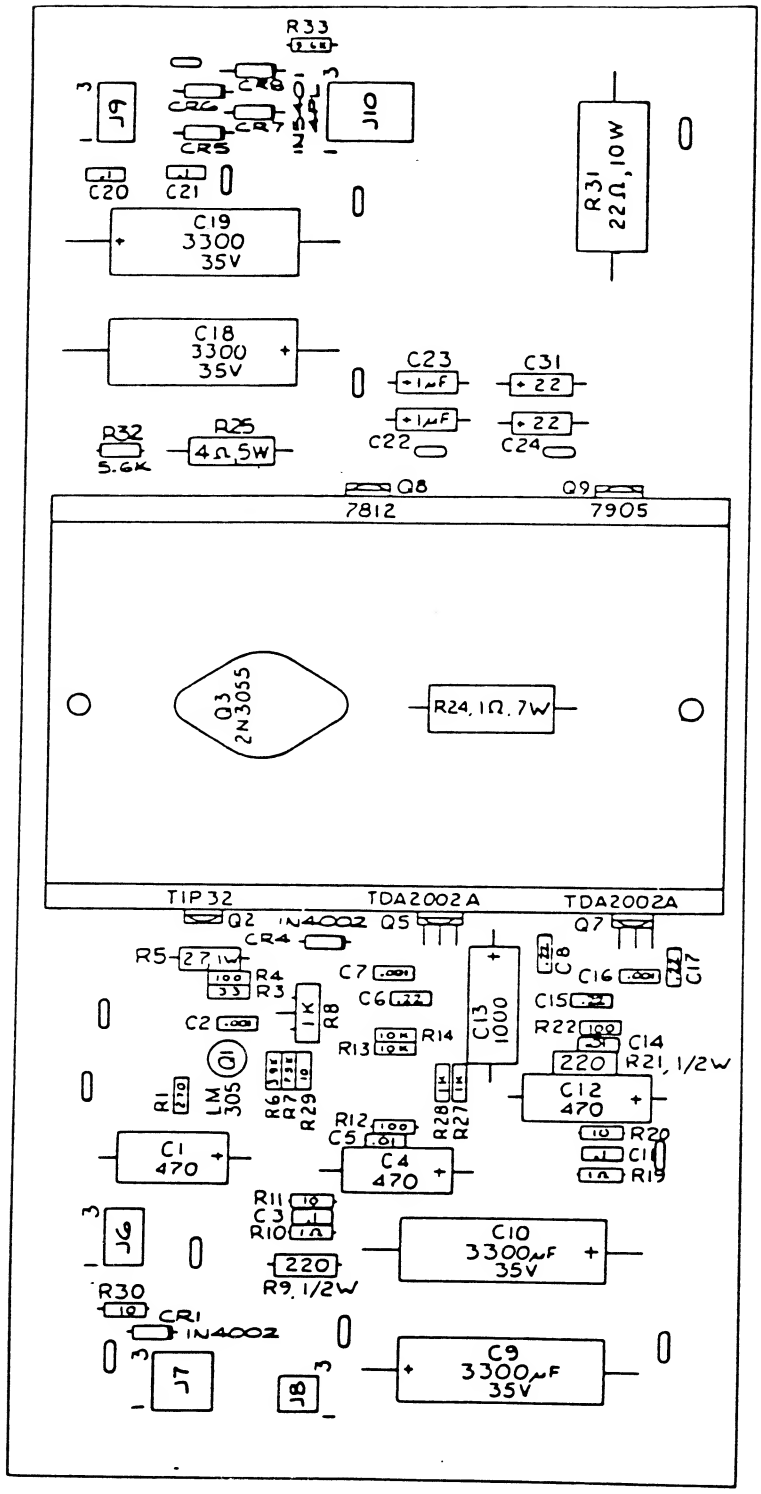


Figure 2-3. Audio PC Board Silkscreen

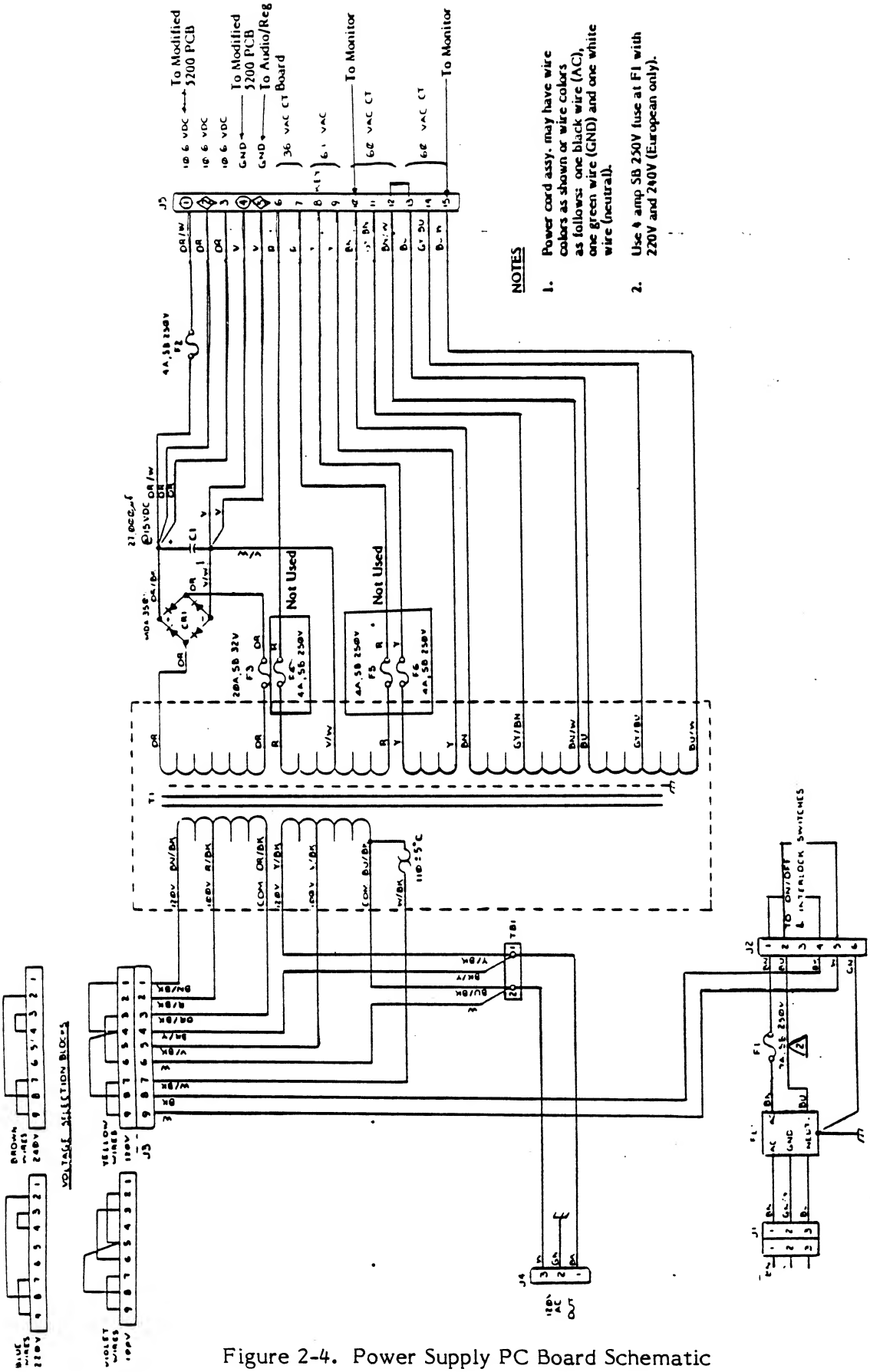


Figure 2-4. Power Supply PC Board Schematic

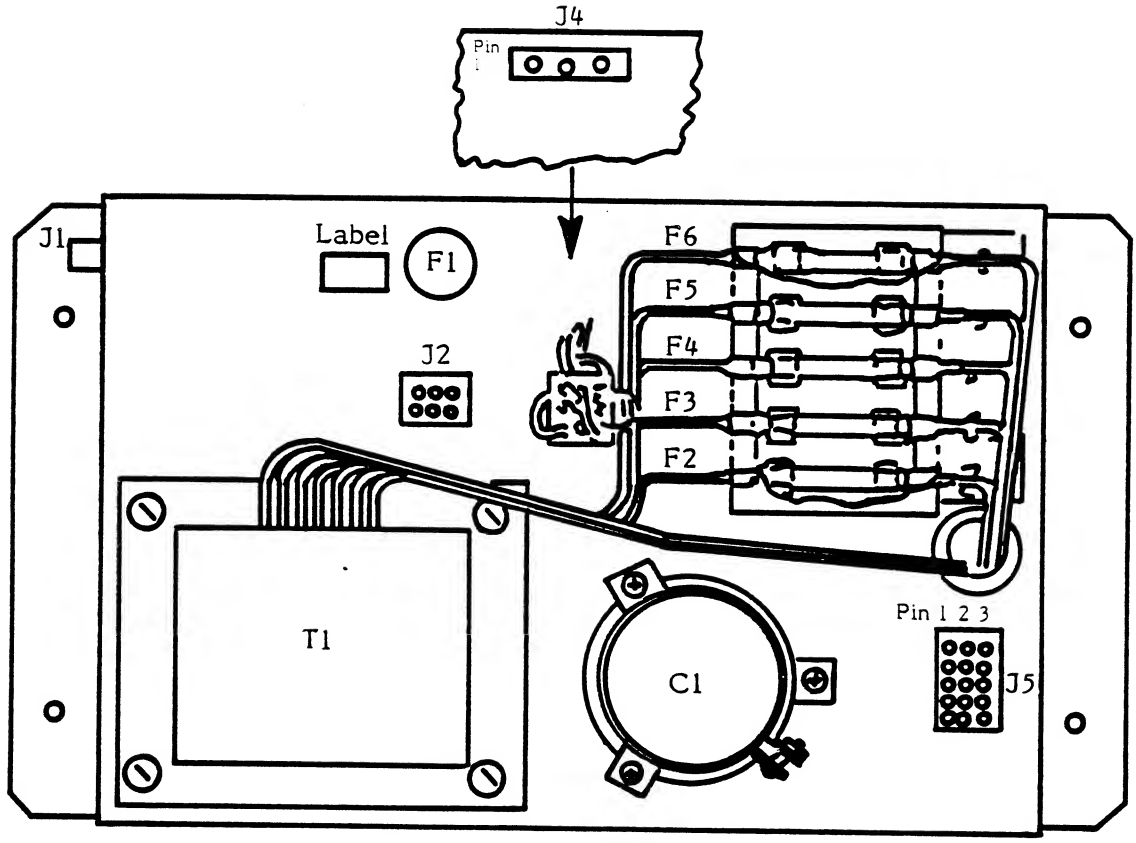


Figure 2-5. Power Supply PC Board Silkscreen

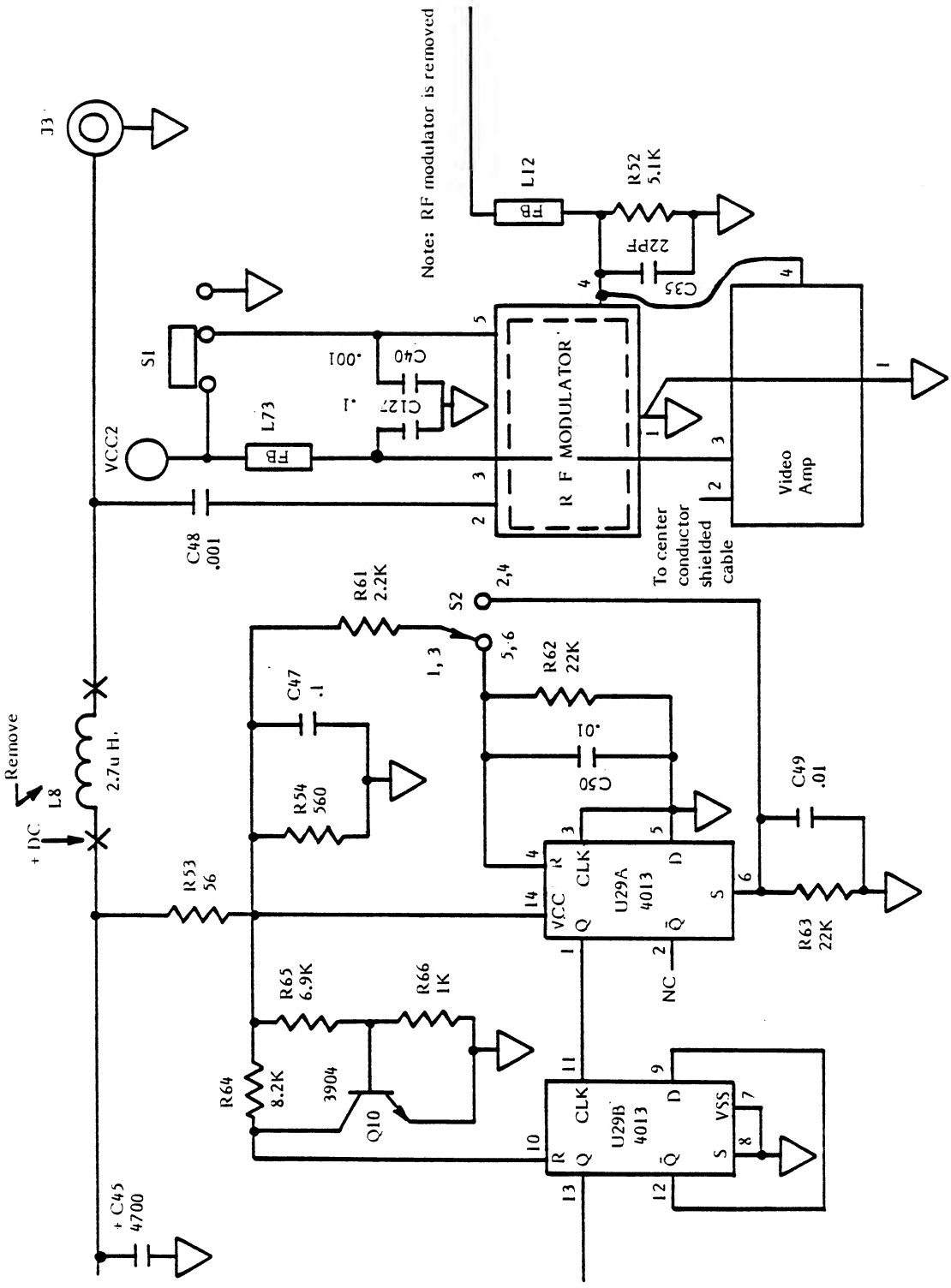


Figure 2-6. Modified CX5200 PC Board Schematic (RF Section Only)

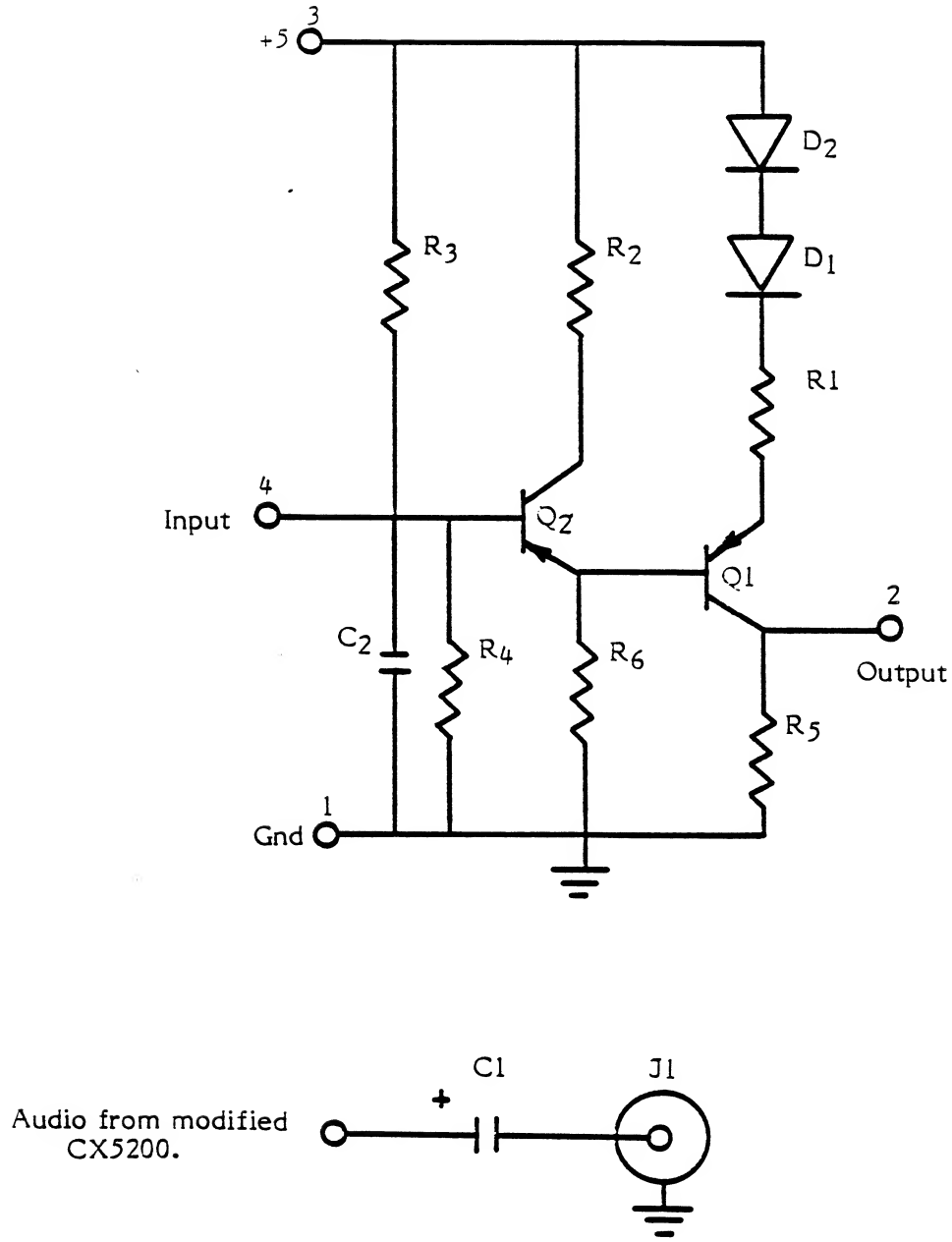


Figure 2-7. Video Amplifier PC Board Schematic

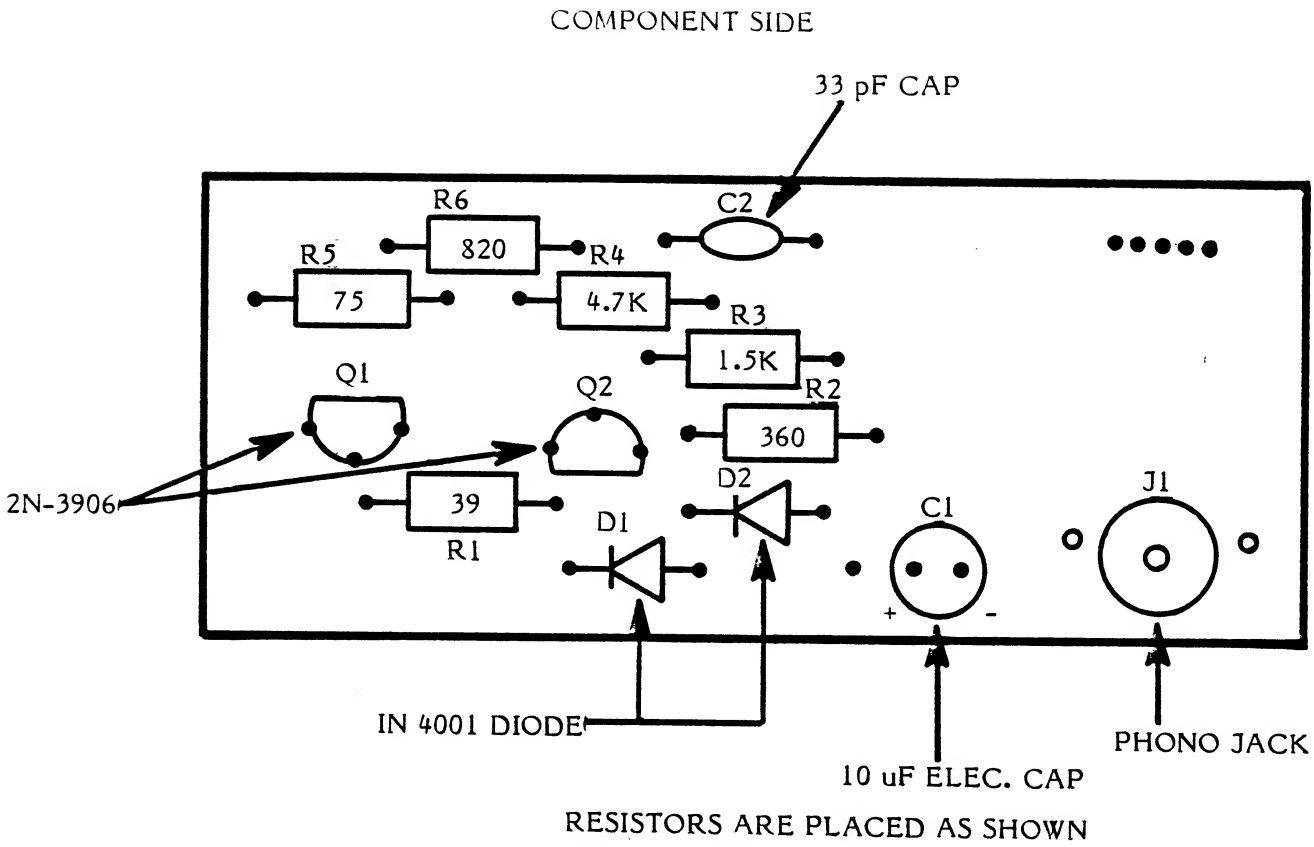


Figure 2-8. Video Amplifier PC Board Silkscreen

SECTION 3

TESTING PROCEDURES

Equipment Needed:

You need the following items to analyze which CX5200 Retail Demonstrator Assembly is defective:

- a Volt/OHM meter
- an RF Modulator TV/monitor Adaptor (Part Number FA100179) (supplied in kit)
- a color TV set (properly adjusted)
- a 1.1 Diagnostic cartridge
- Galaxian™ game cartridge (supplied with Retail Demonstrator)

INITIALIZATION PROCEDURE

Before you begin troubleshooting the retail demonstrator, be sure that the wires on the volume control knob (top shelf-front) are in the correct location. The orange wire and the brown wire must be connected as shown in Figure 3-1 (correct location).

To switch the wires, desolder them and put them in the correct location.

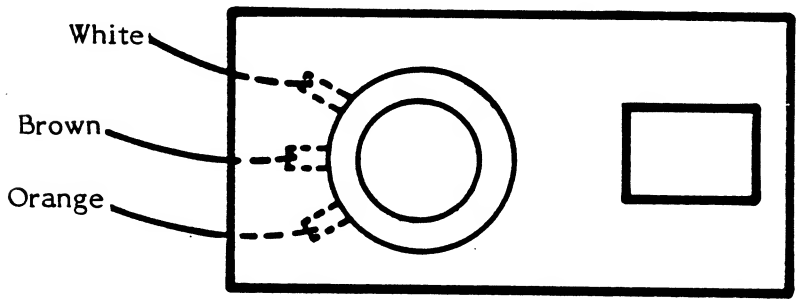


Figure 3-1. Volume Control Knob Wiring (Correct Location)

QUICK CHECK

Use the following to check that the unit is properly set up or for a quick check of the unit.

NOTE: The Model 5200 displayed on the console is non-functional.

The right controller assembly and keyboard are used by player two.

The RESET switch (the right switch on the top of the control panel) stops the game play and resets the game. The START switch (left switch on the top of the control panel) begins the game.

1. Check to make sure the unit is properly plugged into a live electrical outlet.

2. Check the modified CX5200 PC Board to see that:

   a. The game cartridge is properly seated in the game slot (labeled side facing right and firmly seated).

   b. The red ON lamp is lit. If not, press the momentary switch located near it.

3. If unit does not show a display or if the red ON lamp does not light, unplug the unit and check to make sure all the connections to each module are properly seated. Repeat steps 1 and 2. If unit still fails to show a display, proceed to the Symptom Checklist (See pg. 5-2).

4. When the Galaxian™ attract mode displays, use the left controller and keyboard. Press the # key to check that a 1 or 2 player game can be selected as displayed on the screen. Select the two player game and press the START button.

5. Using the left joystick, move your command ship left and right, and press the fire button (bottom switch, left side of demonstrator) to shoot missiles. Let the ship be destroyed.

6. Using the right joystick, move your command ship left and right, and press the fire button (bottom switch, right side of demonstrator) to shoot missiles.

7. Press the RESET button and the game should stop.

8. This concludes the test.

   If the unit passes this test, check that the fluorescent lamps, top and middle, are properly functioning. If they are, the retail demonstrator does not need to be serviced any further.

If any failures occur in the above test, proceed to Section 4.

SECTION 4

DISASSEMBLY/ASSEMBLY PROCEDURE

Special Equipment Needed:

- Phillips head screwdriver
- 1/8" Hex wrench
- 3/32" Hex wrench
- 5/32" Hex wrench
- Small flat blade screwdriver
- 11/32" Nut driver (not more than 4 1/2" in length)
- a soldering iron and solder

NOTE: Be sure unit is unplugged before disassembling to any level.

Disassembly

Use Figure 4-1 as reference for Disassembly/Assembly procedures.

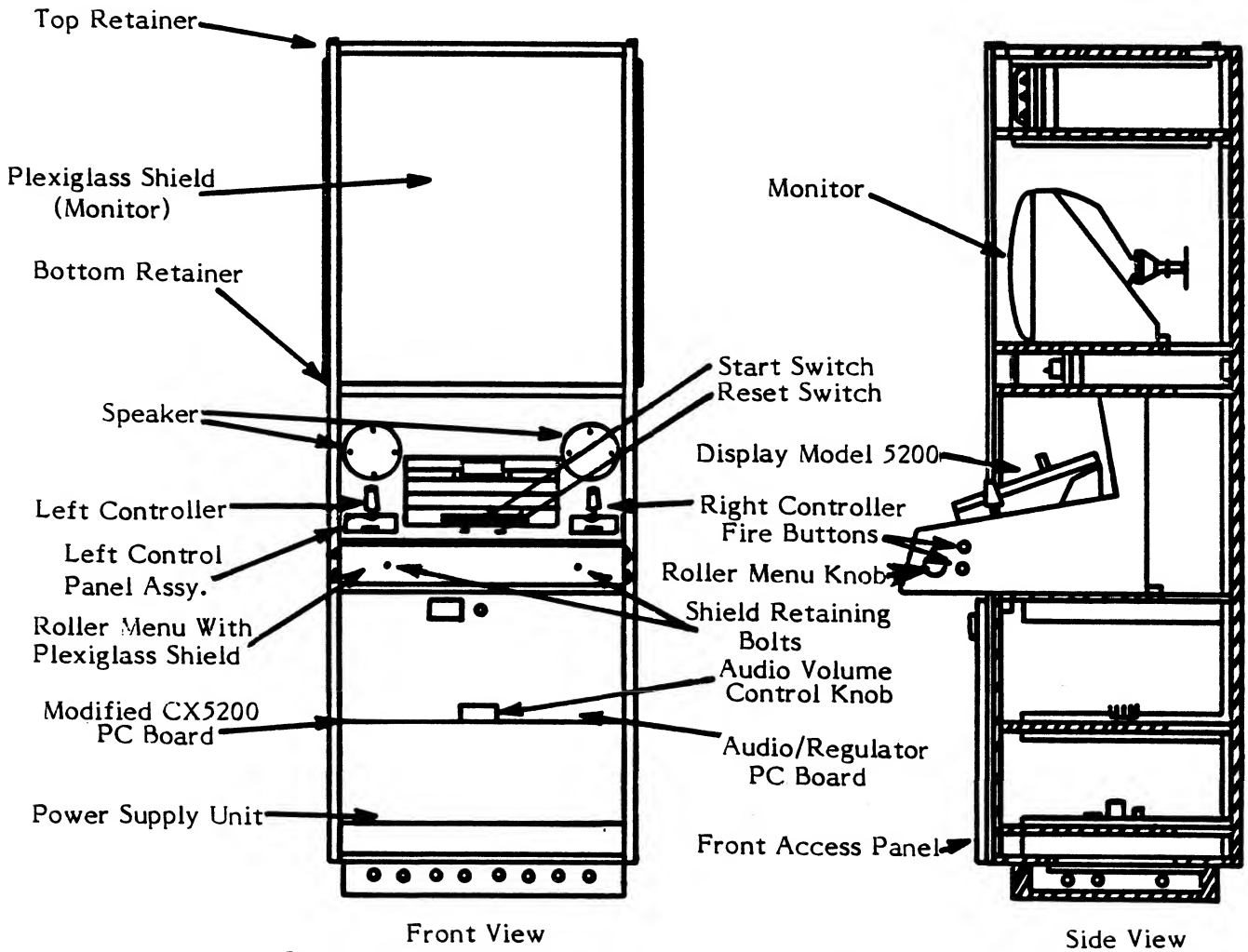


Figure 4-1. CX5200 Retail Demonstrator Assembly.

To remove the modified Model CX5200 PC Board, the Audio PC Board or the Power Supply unit:

1. Open front access panel, lift the panel to remove, and set it aside.

2. Disconnect the wiring harnesses which are plugged into the module you want to remove.

NOTE: The RF cable is soldered to the modified CX5200 PC Board and must be disconnected from the monitor. See instructions below to access the monitor.

3. After disconnecting the wiring harnesses, remove the four Phillips head screws and the stand-offs (if applicable) which attach the module to the retail demonstrator.

4. Remove the module.

To remove the monitor:

CAUTION: DO NOT TOUCH THE REAR OF THE MONITOR — THERE IS DANGER OF SEVERE ELECTRICAL SHOCK.

1. Remove the plexiglass monitor shield:

   - remove the top retainer by removing the three screws holding it in position. Use a 1/8" Hex wrench.

   - while supporting the plexiglass, remove the two screws (one each side) holding the face of the shield.

   - lift the plexiglass shield up and out of the bottom retainer.

   - set the shield aside.

2. Carefully clip and straighten the staples holding the cardboard bezel in place. Do not remove the staples -- they will be used to hold the bezel in place for reassembly.

3. Remove the four 7/16" bolts that hold the base of the monitor down.

   To retrieve the screws if they fall to the shelf below when the nuts are removed:

   Remove the single light panel assembly by loosening the two screws on the assembly.

4. Remove the ground wire and disconnect the power harness and input signal harness from the monitor.

5. Carefully remove the monitor assembly from the retail demonstrator.

To remove the Control Panel Assembly:

1. Use a 5/32" Hex wrench to remove the two upper screws from the console plexiglass shield which covers the roller menu.

2. Use a small flat blade screwdriver to remove one of the roller menu knobs.

3. Loosen the four Phillips head screws on the roller menu (two beside each knob).

4. While supporting the roller menu, slide the shaft out.

5. Disconnect the wiring harness from the controller assembly.

6. Use an 11/32" nut driver to remove the six nuts which hold the control panel assembly to the console.

7. Carefully lift out the assembly.

To remove the Switches:

1. Follow steps 1 through 4 of the previous procedure to remove the roller menu.

2. Disconnect the slide-on connectors on the defective switch.

3. Remove the large nut on the back side of the switch assembly.

4. Remove the switch assembly.

ASSEMBLY

To replace the modified Model CX5200 PC Board, the Audio PC Board or the Power Supply Unit:

1. Align the four screw holes to position the module.

2. Insert and tighten the four phillips head screws and stand-offs (if applicable) which attach the module to the retail demonstrator.

3. Connect the wiring harnesses.

NOTE: THE RF CABLE IS SOLDERED TO THE MODIFIED CX5200 PC BOARD AND MUST BE CONNECTED TO THE MONITOR. SEE INSTRUCTIONS BELOW TO ACCESS THE MONITOR.

4. Replace the front access panel on the retail demonstrator.

To replace the monitor:

CAUTION: DO NOT TOUCH THE REAR OF THE MONITOR --- THERE IS DANGER OF SEVERE ELECTRICAL SHOCK.

1. To position the monitor, align the four holes for the bolts which hold the base of the monitor down.

2. Attach the ground wire and connect the power harness and input signal harness from the monitor.

3. If necessary, remove the light panel assembly to retrieve the screws which have fallen to the shelf below. To do this, loosen the two screws on the light panel assembly and remove it.

4. Replace the four 7/16" bolts that hold the base of the monitor down.

5. Replace the cardboard bezel in front of the monitor. Align the staples with the holes in the bezel, then bend them so that they hold the bezel in place.

6. Replace the plexiglass monitor shield:

   --- set the plexiglass shield in the bottom retainer.

   --- press the face of the shield against the retail demonstrator. Place the top retainer over the shield. Insert andtighten the three screws in the top retainer.

   --- replace the two screws (one each side) holding the face of the shield against the retail demonstrator.

To replace the Control Panel Assembly:

1. To position the assembly, align the six holes for the bolts which hold the assembly to the console. Replace the bolts.

2. Connect the wiring harness from the controller assembly.

3. To replace the roller menu and plexiglass shield:

   --- slide the shaft into the roller menu.

   --- replace the roller menu knob which was removed during disassembly.

   --- insert and tighten the four phillips head screws on the roller menu (two beside each knob).

   --- insert and tighten the two upper screws on the plexiglass shield which covers the roller menu.

To replace the Switches:

1. Place the switch assembly over the hole in the retail demonstrator. Position the assembly with the button on the outside of the demonstrator and the leaf spring assembly on the inside.

2. Insert the threaded shaft of the button through the hole in the leaf spring assembly.

3. Insert and tighten the large nut on the back of the switch assembly.

4. Connect the slide-on connectors.

5. Refer to the previous procedure to replace the roller menu.

SECTION 5

FAULT ISOLATION PROCEDURES

This section enables you to determine which assembly in the CX5200 Retail Demonstrator is defective.

Equipment needed

- a Volt/Ohm meter
- an RF modulator TV/Monitor Adaptor
- a TV Set, properly adjusted

To begin the Fault Isolation Procedures, find your unit's symptom in Table 5-1, Unit Symptom/Flowchart Entry Point, Page 5-2. Table 5-1 will send you to the page and flowchart to use to troubleshoot the unit.

TO USE THE FLOWCHART:

Follow the prompts in the order presented in the flowchart. When a question is asked, follow the line from the box that best applies to your unit's condition. When that line terminates with a letter inside a circle, turn to the page referenced next to the circle, locate the letter and continue the diagnosis. The flowchart leaves nothing to chance. It tells you when to perform a specific test and when to replace components.

When the flowcharts call an assembly or board defective, follow procedures in Section 6 for disposition of the defective board and Section 4 for instructions to replace it.

If you have any problems, call the toll-free Atari Repair Hotline:

Inside California
(800) 672-1466

Outside California
(800) 538-1535

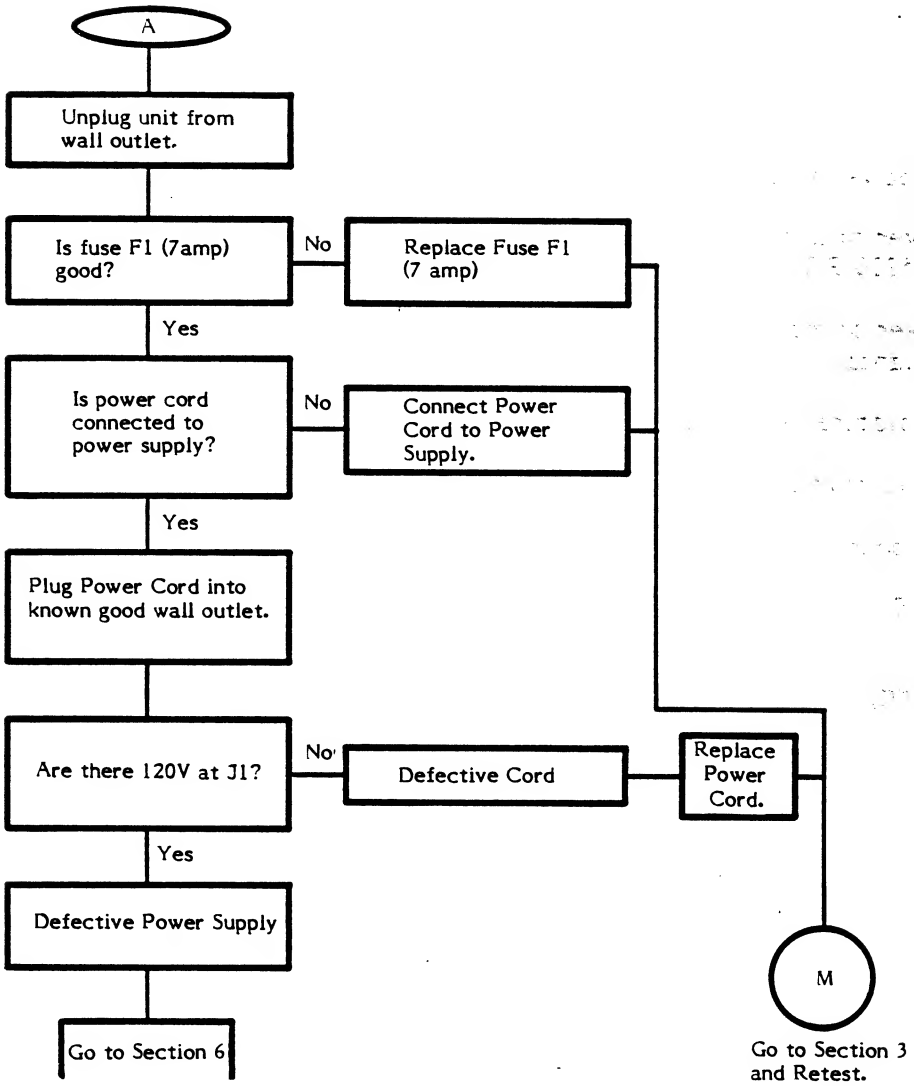
TABLE 5-1

UNIT SYMPTOM/FLOWCHART ENTRY POINT

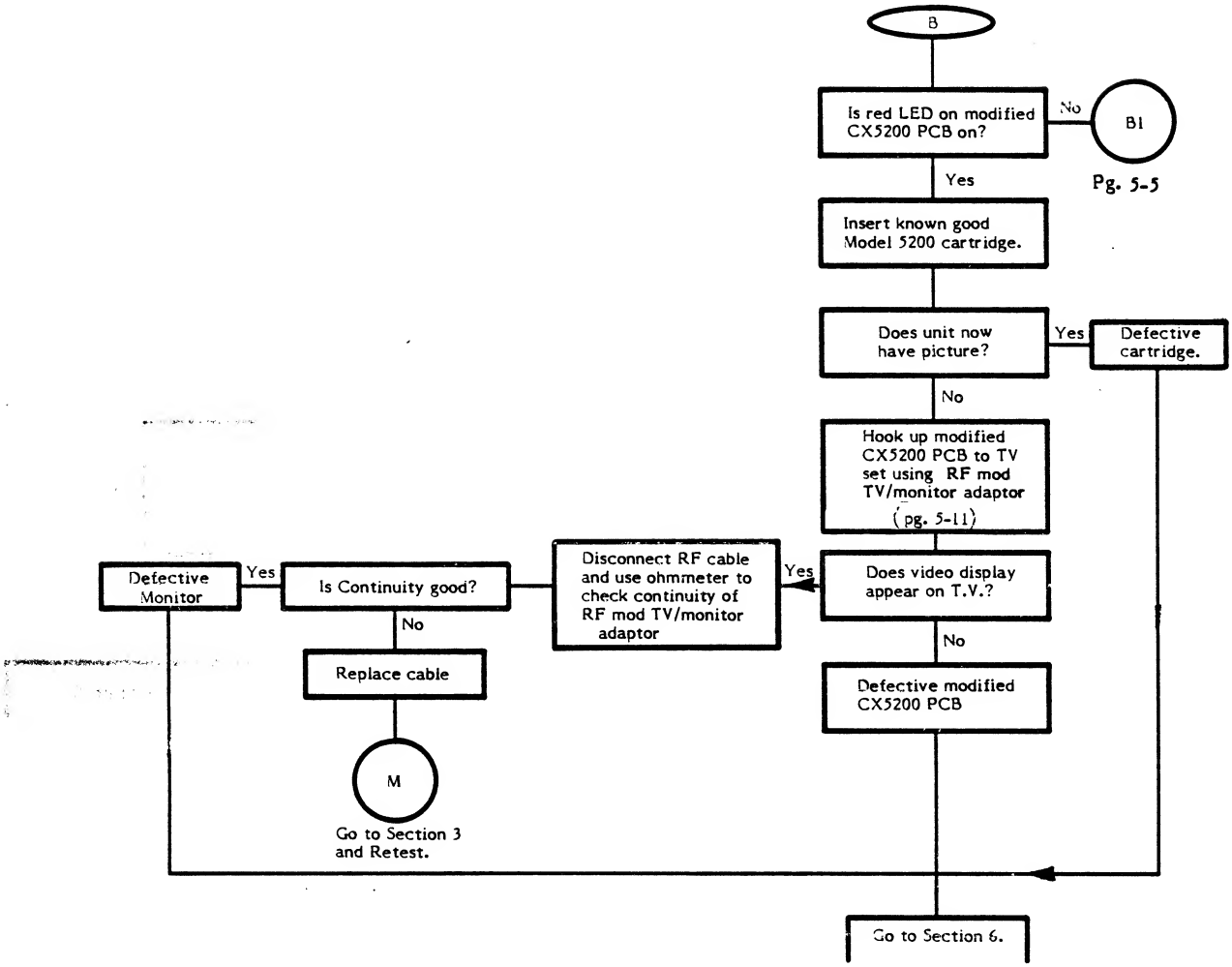
Symptom	Flowchart Entry Point
No power at all	A, Page 5-3
Power to lights, but not to modified CX5200 PC Board	B, Page 5-4
Power to modified CX5200 PC Board, but not to lights	C, Page 5-6
No picture (with audio)	D, Page 5-7
Audio problems (with picture)	E, Page 5-8
Keyboard or Joystick failure	F, Page 5-9
FIRE, START, or RESET button failure	G, Page 5-10

NOTE: The letter M in a circle means that you should return to Section 3 and retest.

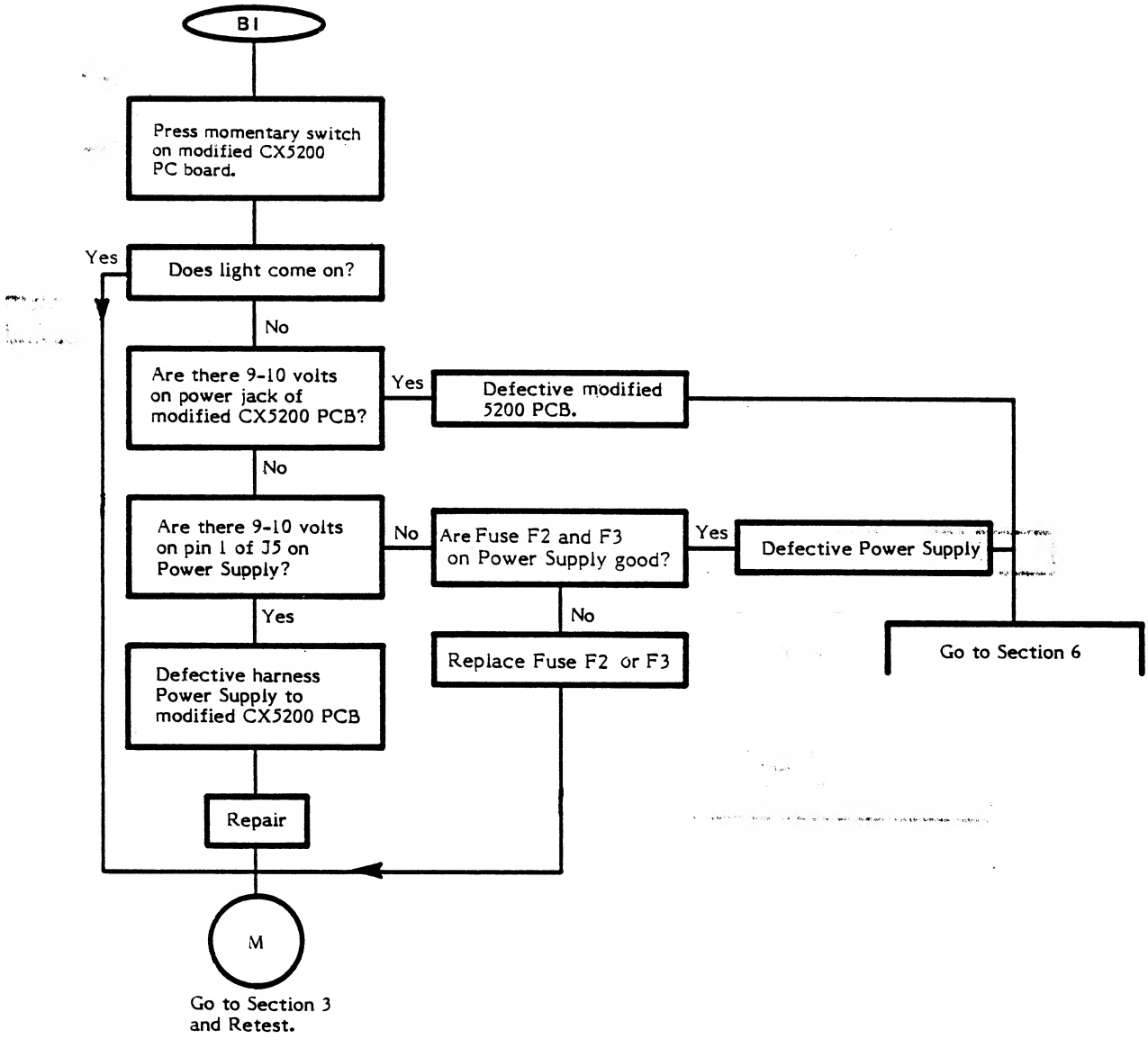
No Power At All



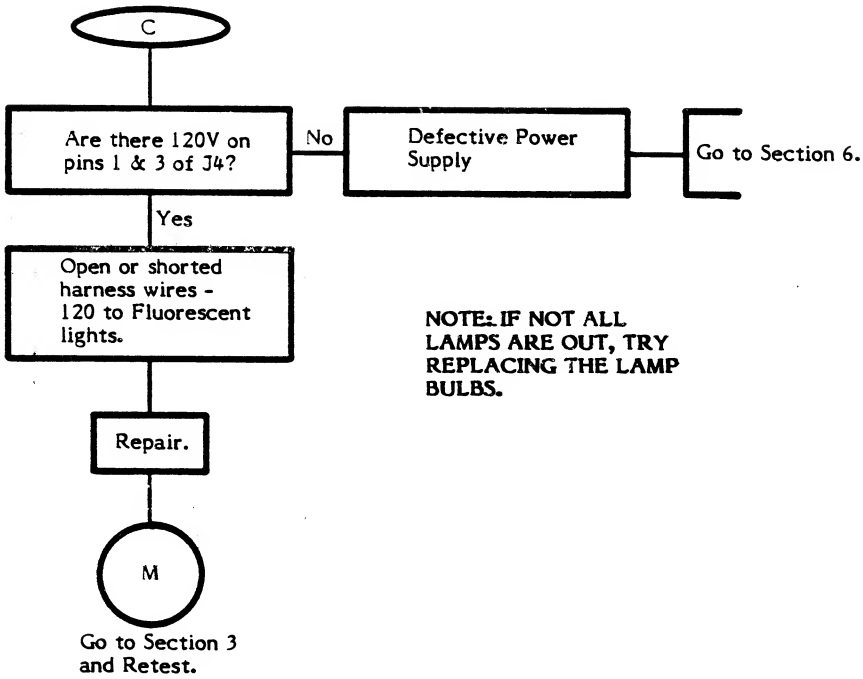
Power To Lights But Not to Modified CX5200 PC Board



Power to Lights But Not to Modified CX5200 PC Board (Cont.)

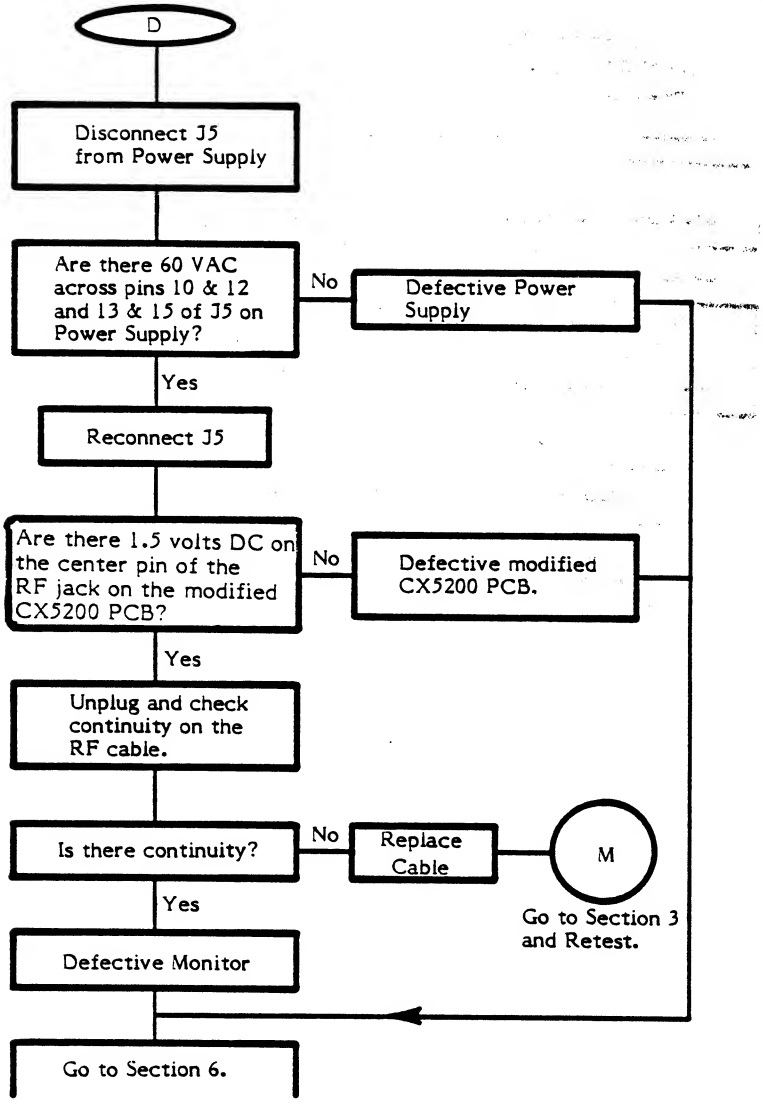


No Power to Fluorescent Lights But Power to Modified CX5200 PC Board

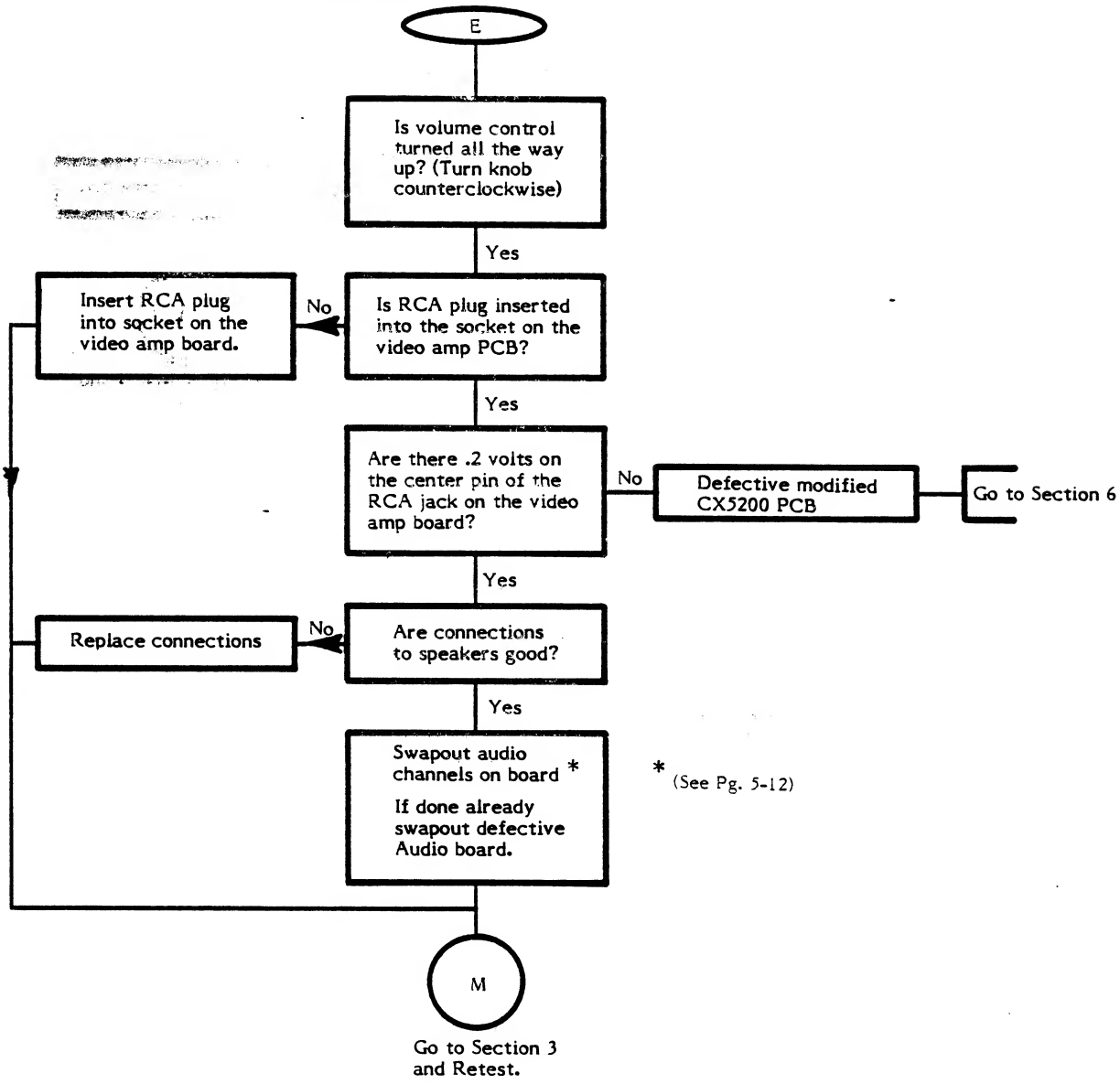


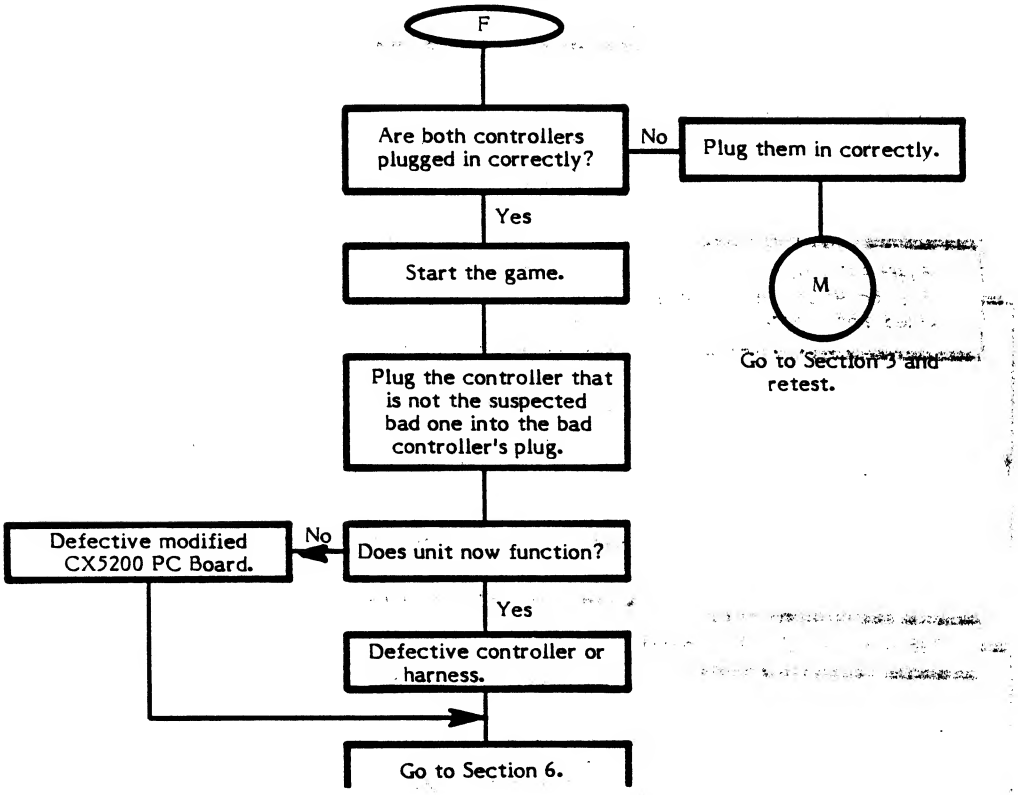
NOTE: IF NOT ALL LAMPS ARE OUT, TRY REPLACING THE LAMP BULBS.

No Picture With Audio

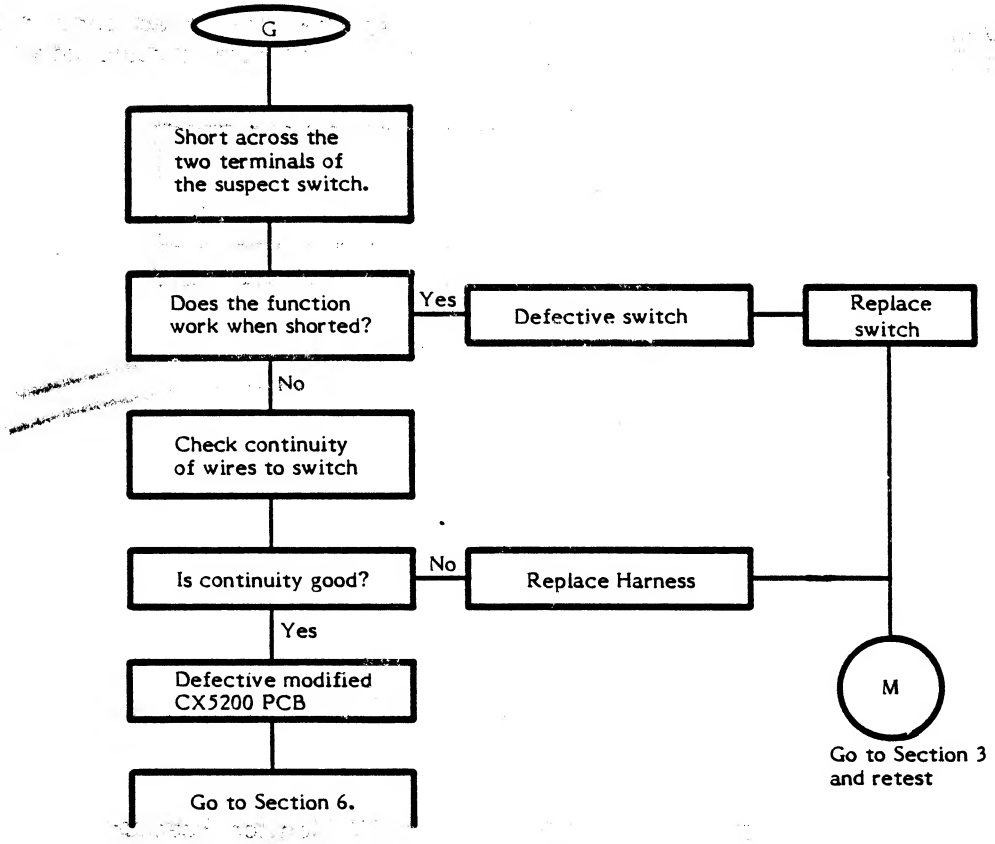


Audio Problems (With Good Picture)




F
Are both controllers plugged in correctly?
No
Plug them in correctly.
Yes
M
Start the game.
Go to Section 3 and retest.
Plug the controller that is not the suspected bad one into the bad controller's plug.
Defective modified CX5200 PC Board.
No
Does unit now function?
Yes
Defective controller or harness.
Go to Section 6.

Defective START, RESET, or FIRE Buttons



RF Modulator TV/Monitor Adaptor Procedures

The adaptor is supplied to enable you to check whether the video portion of the modified CX5200 PC Board is broadcasting correctly, thereby cutting down repair time.

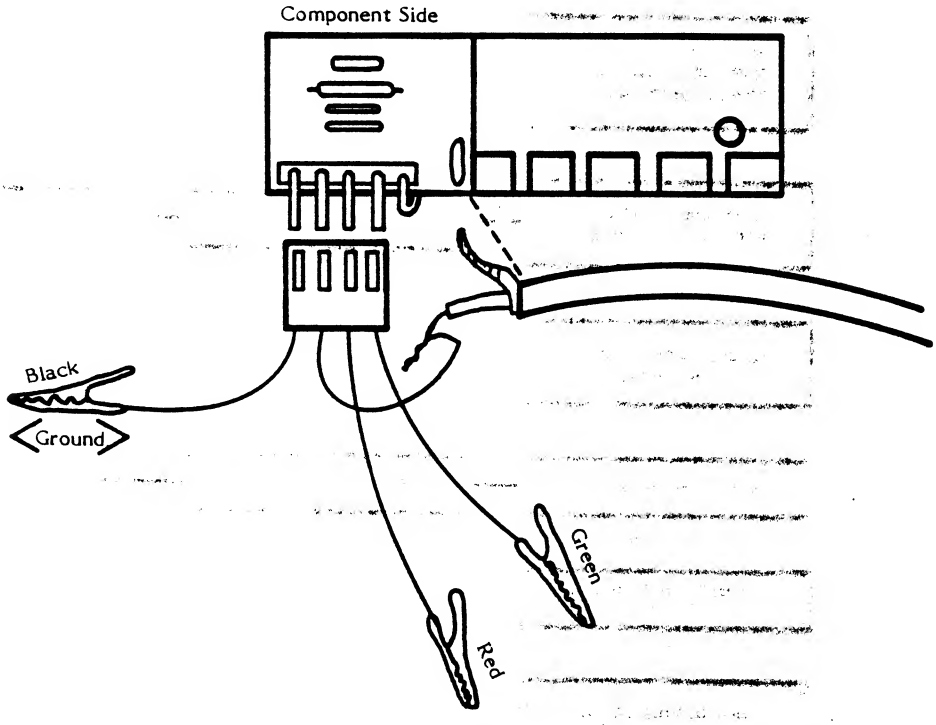


Figure 5-1. RF Modulator TV/Monitor Adaptor
Part Number FA100179

Connecting the Adaptor

Refer to Figure 2-8, Page 2-9 for the following steps:

1. With power to the modified CX5200 PC Board OFF, connect the Red lead to the RCA jack side of R3 (4.7K) on the video amp PC Board.

2. Connect the Green lead to the opposite side of R3 (opposite to the Red lead) on the video amp PC board.

3. Connect the Black lead to circuit ground (connect to the tabs on the PCB shielding)

4. Connect the RCA plug on the end of the RF cable into a typical 2600/computer switchbox.

5. Turn power to the modified CX5200 ON and select channel 2 on your television set.

NOTE: It may be necessary to tune your adaptor for best reception. This will have no effect on the modified CX5200 PC board since it does not use RF when in the demonstrator.

Audio Channel Swapping Procedure

This procedure is used to enable the extra audio channel that is on the Audio PCB to be used in place of the defective channel.

NOTE: If when swapped the audio still does not function, the audio board is defective.

Pull out pin 3 from socket J8 on the audio board and replace it in pin 4 (see Figure 5-2).

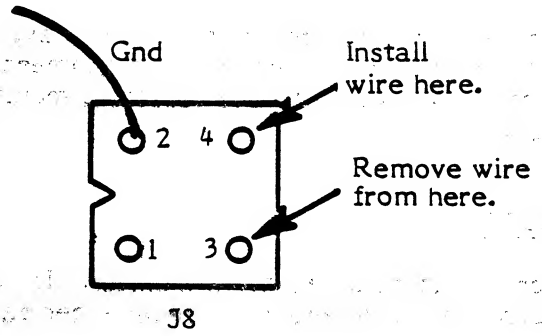


Figure 5-2. Audio PC Board Channel Swapping

SECTION 6

REPAIR PROCEDURES FOR CONSIGNED REPAIR CENTERS

DEFECTIVE BOARDS, SPEAKERS

Replace the defective module with one from your spares kit. After you have made certain that the new module has corrected the problem, contact your Regional Service Center to exchange the defective one for a good one.

DEFECTIVE MONITOR

Before removing the defective monitor from the display, contact your Regional Service Center for a replacement. When the replacement arrives, exchange the defective monitor with the new one. Send the defective monitor back to the Regional Service Center for repairs.

DEFECTIVE CONTROLLER

Follow the procedure for replacing a defective monitor. If you are replacing a right controller you must modify the replacement you receive per page 6-3.

Use Section 4, Disassembly/Assembly Procedure as reference when removing or replacing assemblies.

For replacement or exchange of defective CX5200 Retail Demonstrator assemblies, contact the appropriate Atari Regional Repair Center:

Eastern Region - for the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey New York, Pennsylvania, Rhode Island, Vermont, Virginia, Washington D.C., and West Virginia:

Inside New Jersey (800) 942-7794
Outside New Jersey (800) 526-3906

Midwestern Region - for the states of Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin:

Inside Illinois (800) 942-7370
Outside Illinois (800) 323-4139

Southern Region - for the states of Alabama, Arkansas, Florida, Georgia Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas:

Inside Texas (800) 772-5462
Outside Texas (800) 433-5140

Western Region - for the states of Alaska, Arizona, California, Colorado Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming:

Inside California (800) 672-1451
Outside California (800) 538-1604

HOW TO CHANGE A LEFT CONTROLLER TO A RIGHT HAND CONTROLLER

Purpose: This procedure is used to change a left controller (only spare available) into a right controller to replace a defective right controller.

The following steps describe how to change the positioning of the potentiometers and the supports to allow sufficient cabinet clearance to operate the controller. Step 6 describes which wires to swap so that pots operate correctly in the new positions.

Use Figure 6-1 as reference for the following steps:

Procedure:

1. Lay the new (left) controller face down.
2. Cut the two tie wraps which hold the cables onto the base plate.
3. Unplug the keyboard connector (Note the polarity).
4. Remove the four screws which hold the pot assembly to the base plate.
5. Lift and turn the pot assembly 90 degrees to the right (left/right pot now becomes up/down pot and vice versa).
6. Replace the four screws which hold the pot assembly to the base.
7. Swap some of the wires on the two pots to conform to the new directions they operate on (i.e. left/ right pot becomes up/down pot). See detail figure 6-1 for proper wire locations (3 wires will have to be swapped: the yellow, the orange and one black).
8. Plug in the keyboard connector. Make sure polarity is correct (See Detail, Figure 6-1).
9. Secure the wiring to the base plate by tie-wraps.
10. Remove the defective controller from the retail demonstrator and insert the new one using instructions on pages 4-3 and 4-4.
11. After assembly, check pot arm alignment using page 6-5.

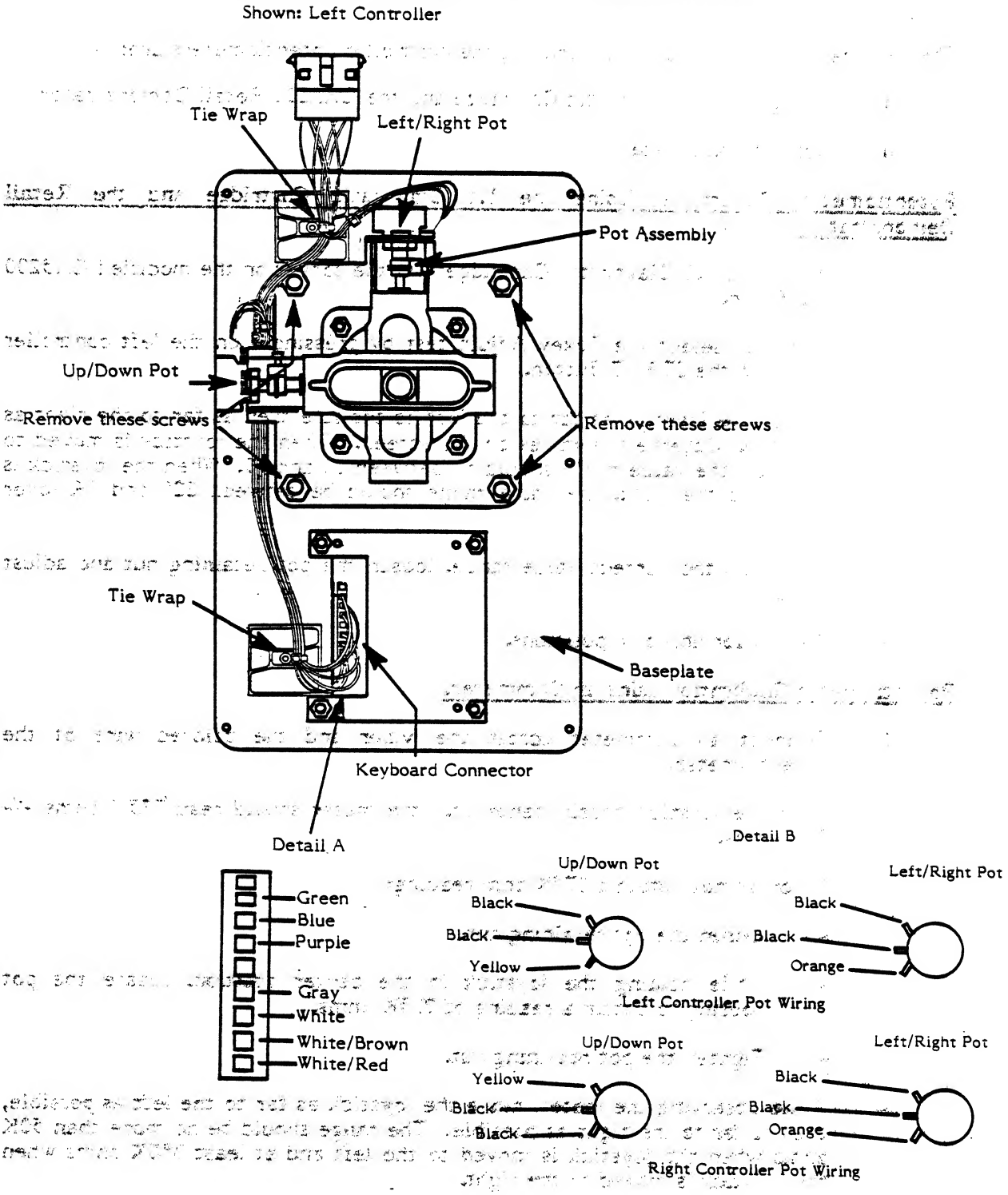


Figure 6-1. Joystick Gimbal and Wiring Detail

CONTROLLER POTENTIOMETER CALIBRATION

The two methods available for calibrating the controller potentiometers are:

- Using the 1.1 Diagnostic Cartridge and the CX5200 Retail Demonstrator
- Using an ohmmeter

Potentiometer Calibration Using the 1.1 Diagnostic Cartridge and the Retail Demonstrator.

1. Insert the 1.1 Diagnostic Cartridge into the socket on the modified CX5200 PC Board.

2. Manually select the Pokey Adjust test by pressing 5 on the left controller and then the START Button.

3. Move the joystick as far to the left as possible then as far to the right as possible. Observe the values on the screen. When the joystick is moved to the left, the value range should be between 10 and 30. When the joystick is moved to the right, the value range should be between 220 and ^{O}R (over range).

4. To obtain the correct value range, loosen the pot retaining nut and adjust the pot.

5. Repeat for up/down positions.

Potentiometer Calibration using an Ohmmeter.

1. Connect an ohmmeter across the wiper and the colored wire of the potentiometer.

2. With the joystick nearly centered, the meter should read 275K ohms +/- 25K ohms.

3. If you do not obtain a 275K ohm reading:

   - loosen the pot retaining nut.
   - while holding the joystick in the center position, rotate the pot housing to obtain a reading of 275K ohms.
   - Tighten the pot retaining nut.

4. While observing the meter, move the joystick as far to the left as possible, then as far to the right as possible. The range should be no more than 50K ohms when the joystick is moved to the left and at least 480K ohms when the joystick is moved to the right.

5. If you do not obtain a 50K ohm to 480K ohm value range:

   - loosen the pot retaining nut
   - slide the pot wiper shaft slightly closer to the gimbal actuator pin.
   - while holding the joystick in the center position, rotate the pot housing to obtain a reading of 275K ohms.
   - Tighten the pot retaining nut.

SECTION 7

ATARI CX5200 RETAIL DEMONSTRATOR

PARTS LIST

MAJOR ASSEMBLIES

LOCATION	DESCRIPTION	PART NUMBER
	CX5200 PC BOARD ASSY (modified)	CA020329
	TOP HOUSING ASSY	CA018175-01
	BASE ASSY	CA018176-01
	VIDEO AMP PC BOARD	CA020330
	REGULATOR/AUDIO PC BOARD ASSY	A035435-02
	POWER SUPPLY ASSY	A037671-01
	CONTROL PANEL (LEFT)	A039173-01
	CABINET (FINAL ASSY)	A039054-01
	RF MODULATOR TV/MONITOR ADAPTOR	FA100179

	CX5200 PC BOARD ASSY (modified)	CA020329
C1,2,5,7,8,15-17 21,23-29,34,47,60, 73,86	Cap. Ceramic Axial .1uF (50V)	C014181-03
C3,4,6,12,18,22, 36,49,50	Cap. Ceramic Axial .01uF (50V)	C014180-18
C9	Cap. Ceramic Axial 100pF (50V)	C014180-03
C10,31,33,55	Cap. Ceramic Axial 47pF (50V)	C014179-05
C11,20	Cap. Ceramic Axial 10pF (50V)	C014179-03
C13,14	Cap. Polystyrene 820 pF (25V)	C018621
C19,99-106	Cap. Polyester Radial .047uF (100V)	C017518
C30,32	Cap. Ceramic Axial 68pF (50V)	C014179-12
C35	Cap. Ceramic Axial 22pF (50V)	C014179-01
C37,38,40,48,51-54, 91-98,107-110,124,126, 131-135	Cap. Ceramic Axial .001uF (50V)	C014180-17
C41,42,119,144	Cap. Tantalum Axial 10uF (20V)	C017516
C43,44	Cap. Polyester Radial .22uF (100V)	C010394
C45	Cap. Elec Radial 4700 uF (25V)	C016033
C56-59,61-72,74-85, 87-90,112-115	Cap. Ceramic Axial 470pF (50V)	C014179-16
C111,117,118,120-122 125,127,129,130,136	Cap. Ceramic Axial .1uF (50V)	C014181-03

LOCATION	DESCRIPTION	PART NUMBER
C116	Cap. Ceramic Axial .22uF (50V	C014181-05
C138,139,141-143	Cap. Ceramic Axial .1uF (25V)	C014181-03
C140	Cap. Ceramic Axial 33pF (50V)	C014179-04
R1	Resistor 1/4W 470K	14-5474
R2	Resistor 1/4W 100K	14-5104
R3	Resistor 1/4W 1 Meg	14-5105
R4-7,15,16,27,32,34-37 47,55,56,60,69,124	Resistor 1/4W 4.7K	14-5472
R8	Resistor Variable 500K	19-411504
R9	Resistor 1/4W 91 Ohm	14-5910
R10,17-21,30,39,44,50 59,66,96,101	Resistor 1/4W 1K	14-5102
R11,14,68,131	Resistor 1/4W 220 Ohm	14-5221
R12,61	Resistor 1/4W 2.2K	14-5222
R13	Resistor 1/4W 240 Ohm	14-5241
R22,64	Resistor 1/4W 8.2K	14-5822
R23	Resistor 1/4W 82K	14-5823
R24	Resistor 1/4W 39K	14-5393
R25	Resistor 1/4W 20K	14-5203
R26,40	Resistor 1/4W 10K	14-5103
R28	Resistor 1/4W 3.3K	14-5332
R29,46	Resistor 1/4W 12K	14-5123
R31,43,65,125	Resistor 1/4W 6.8K	14-5682
R33	Resistor 1/4W 510 Ohm	14-5511
R41	Resistor 1/4W 18K	14-5183
R42	Resistor 1/4W 9.1K	14-5912
R45	Resistor 1/4W 15K	14-5153
R48,49	Resistor 1/4W 47K	14-5473
R51	Resistor 1/4W 10 Ohm	14-5100
R52	Resistor 1/4W 5.1K	14-5512
R53	Resistor 1/4W 56 Ohm	14-5560
R54	Resistor 1/4W 560 Ohm	14-5561
R57,58	Resistor 1 W 182 Ohm (Metal Film)	C018188-01
R62,63	Resistor 1/4W 22K	14-5223
R67	Resistor 1/4W 150 Ohm	14-5151
R70-76,78-95,97-100 102-105,114-121	Resistor 1/4W 470 Ohm	14-5471
R106-113	Resistor 1/4W 1.8K	14-5182
R122	Resistor 1/4W 22 Ohm	14-5220
R123	Resistor 1/4W 390 Ohm	14-5391
R126	Resistor 1/4W 1K (Metal Film)	C018974-01
R128	Resistor 1/4W 3.3K (Metal Film)	C018974-03
R129,133	Resistor 1/4W 680 Ohm	14-5681
R130	Resistor 1/4W 1.5K (Metal Film)	C018974-02
R132(Alternate Listed)	Resistor Variable 1K	C019103-01
R132(Alternate for P/N C019103)	Resistor Variable 1K	C018975-01

LOCATION	DESCRIPTION	PART NUMBER
U1	IC CD4050B (HEX CMOS Buffer)	C010816
U2	IC 6502 (Modified)	C014806
U3	IC ANTIC	C012296
U4,15	IC 74LS244	C014313
U5	IC GTIA	C014805
U6	IC 74LS139N	C018032
U7	IC POKEY	C012294
U8	IC ROM OS	C019156
U9-13	IC 4052 (Analog multiplexer)	C017950
U14,28	IC 74LS10	C014339
U16,17	IC 74LS258N	C019052
U18-25	IC RAM (16K X 1D Single Supply)	C018082
U27	IC 74LS00	C014341
U29	IC 4013B (Dual Type D Flip Flop)	C014334
CR1-4	Diode 1N914	31-1N914
Q1,2,5,11,15	Transistor 2N3906	C018991
Q3,8-10,12-14	Transistor 2N3904	34-2N3904
Q4	Transistor 34-2N3563	34-2N3563
Q6,7	Transistor MJE210	C018094
Y1(Alternate Listed)	Crystal 3.579575 Mhz (HC-18)	C015510
Y1(Alternate for P/N C015510)	Crystal 3.579575 Mhz	C010177
L1	Inductor Variable (0.85-1.2uH)	C010823
L2	Inductor Axial 2uH	C010822
L3	Inductor Axial 4.7 uH	C014804
L4-6	Inductor Axial 22uH	C014380
L9,11-16,18	Inductor Ferrite Bead	C014384
DS1	LED	C014776
DS1 (Part of)	LED Standoff	C018143
VR1,2 (Part of)	Voltage Regulator 7805 (5V/1A)	C014348
S1	Switch Slide Channel Select	C012241
S2	Switch Momentary Push Button	C018093-01
J1	Connector Cartridge PC Board Mount (18/36)	C018081
J3	Connector Phono Jack	C018245
Port 1-4	Connector (15 pin)	C018013
X1,6,9-13,16-25	Socket IC (16 pin)	C014386-03
X2,3,5,7	Socket IC (40 pin)	C014386-09
X4,15	Socket IC (20 pin)	C014386-05

LOCATION	DESCRIPTION	PART NUMBER
X8	Socket IC (24 pin)	C014386-07
X14,27-29	Socket IC (14 pin)	C014386-02
VR1,2	Heatsink /Regulator Assy	CA019069
VR1,2(Part of)	Heatsink	C018140
	Cable Assy	CA018218
	Shield Top	C019027
	Shield Bottom	C019028
	PC Board (J2 mounted on PC Board)	C018085
	TOP HOUSING ASSY	**CA018175-01**
	Housing Top	C018131
	Button (Power ON/OFF)	C018137
	ATARI Logo Name Plate	C018141
	Spring (Power ON/OFF)	C018144
	Connector Cover	C018951
	BASE ASSY	**CA018176-01**
	Rubber Feet	88-1006
	Housing Bottom	C018132
	Cartridge Door Rear	C018139
	Housing Cord Wrap	C018136
	Cover Controller	C018952
	VIDEO AMP PC BOARD ASSY	**CA020330**
	CX5200 PCB ASSEMBLY	CA020329
	VIDEO AMP PCB	C020331
	Power Jack	C014715
	Ribbon Cable (4")	C020333
	22 ga. stranded wire	C020393,
	(2-colors)	C020394
	24 ga. stranded wire	C020395,
		C020396
	1/8" shrink-tube	C020398
J1	Connector, Phono	C018245
	-alternate	79-5903
Q1,Q2	2N3906 Trans. (2)	C018991
C1	Electro. CAP 10 uF 16V	C014392
C2	Cap. 33 pf. ceramic	C014179-04
D1,D2	Diode, 1N-4001 (2)	31-1N4001
R1	Resistor 39 ohm	C020337
R2	Res. 360 Ohm	14-5361

LOCATION	DESCRIPTION	PART NUMBER
	VIDEO AMP PC BOARD	**CA020330**
R3	Res. 1.5K	14-5152
R4	Res. 4.7K	14-5472
R5	Res. 75 ohm	14-5750
R6	Res. 820 ohm	14-5821
	RF Cable	CA018218
	REGULATOR/AUDIO PC BOARD ASSY	**A035435-02**
C13	1000 uF Aluminum Electrolyte Fixed Axial-Lead 25V Capacitor	24-250108
C4,C12	470 uF Aluminum Electrolytic Fixed Axial-Lead 25V Capacitor	24-250477
C9,C10	3300 uF Aluminum Electrolytic Fixed Axial-Lead 35V Capacitor	24-350338
C3,11	.1 uF Ceramic-Disc 25V Radial-Lead Capacitor	29-088
C5,C14	.01 uF Ceramic-Disc 25V Radial-Lead Capacitor	100015-103
R10,19	1 Ohm, ±5%, 1/4W Resistor	110000-010
R11,20	10 Ohm, ±5%. 1/4W Resistor	110000-100
R12,22	100 Ohm, ±5%, 1/4W Resistor	110000-101
R27,28	1K Ohm, ±5%, 1/4W Resistor	110000-102
R13,14	10K Ohm, ±5%, 1/4W Resistor	110000-103
R9,21	220 Ohm, ±5%, 1/2W Resistor	110001-221
C7,16	.001 uF Ceramic-Disc Minimum 25V Radial-Lead Capacitor	122002-102
C6,8,15,17	.22 uF Ceramic-Disc 25V Capacitor	122004-224
Q5,7	Type TDA2002A 8W Linear Audio Amplifier Integrated Circuit	137151-002
	POWER SUPPLY ASSY	**A037671-01**
	Voltage Plug (120V plug-for U.S power supply only)	A021084-02
	A.C. Harness Assembly	A034629-01
FL1	RFI Filter Assembly	A034630-01
T1	Transformer Assembly	A035888-01/02
	Power Harness Assembly	A035890-01
	Fuse Harness Assembly	A035891-01
	Voltage Plug Assembly (100V, 220V and 240V plugs- international only)	A037479-01
C1	27,000 uF 15 VDC Electrolytic Capacitor	29-053
CR1	Bridge Rectifier, Type MDA 3501	3A-MDA3501

LOCATION	DESCRIPTION	PART NUMBER
	POWER SUPPLY ASSY	**A037671-01**
F2,F4-F6	4-Amp. 250V 3AG Slow-Blow Glass Cartridge-Type Fuse	46-2014002
F1	7-Amp. 250V 3AG Slow-Blow Glass Cartridge-Type Fuse	46-2017002
F3	20-Amp. 32V 3AG Slow-Blow Glass Cartridge-Type Fuse	46-301203
	CONTROL PANEL (LEFT)	**A039173-01**
	Switch Assembly	160022-001
	Button	178030-003
	Joystick Assy	A038896-01
	Potentiometer	119000-205
	Linkage	036957-01
	Keyboard	171029-001
	CABINET (FINAL ASSEMBLY)	**A039054-01**
	Monitor Assy.	A039281-01
	Plexiglass Shield (Monitor)	039074-01
	Plexiglass Shield (Console)	039176-01
	Speakers	48-004
	RF MODULATOR TV/MONITOR ADAPTOR ASSY	**FA100179**

SECTION 8

SERVICE BULLETINS

This section is to be used by you to file the three classifications of service bulletins which are periodically released by the Consumer Product Service, Manager of Technical Support.

The following are brief descriptions of each classifications.

FIELD CHANGE ORDER

A Field Change Order describes hardware or software changes to ATARI products and instructs how to implement these changes.

To indicate your **required** action, a Field Change Order is issued in one of the following two categories:

MANDATORY - This identifies a failure mode which affects reliability and describes a procedure to correct the failure. This procedure must be performed on **all units serviced or repaired.**

AS FAILS - This identifies a failure mode which affects reliability and describes a procedure to correct the failure mode. This procedure must be performed on **on an as fails basis.**

UPGRADE BULLETIN

An Upgrade Bulletin describes product improvements or modifications which the consumer may wish to purchase. These Bulletins allow you to modify the customer's unit to add capabilities which may not have been available when the unit was originally manufactured.

TECH TIP

A Tech Tip is a document of a general nature which transmits routine service or repair information by communicating methods developed since you attended training classes. Tech Tips aid to continuously improve repair skills and increase knowledge of ATARI Computer Products.

Other times, Tech Tips alert you to units which have been modified and are now standard from ATARI Manufacturing, but are different from many existing units and require different repair techniques.